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PATENT

Attorney's Docket No. 74451.P103

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Application of:

Kathrin Berkner

Application No.: 09/467,544 .

Filed: December 10, 1999 .

For: MULTISCALE SHARPENING
AND SMOOTHING WITH WAVELETS)

Examiner: Not yet assigned

Art Unit: 2721

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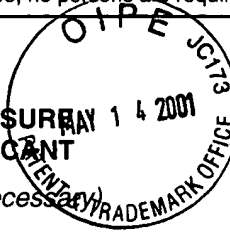
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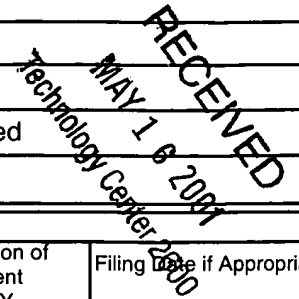
INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)



Complete if Known

Application Number 09/467,544
Filing Date 12/10/1999
First Named Inventor Berkner
Group Art Unit 2721
Examiner Name Not yet assigned
Attorney Docket Number 74451.P103



Sheet 1 of 9

U.S. PATENT DOCUMENTS

Examiner Initials *	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Filing Date if Appropriate
		Number			
		5,717,789	Anderson et al.	2/10/1998	
		5,883,973	Pascovici et al.	3/16/1999	
		5,805,721	Vuytsteke et al.	9/8/1998	
		5,867,606	Tretter	2/2/1999	

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+	ABRAMOVICH, F., Silverman, B.W., "Wavelet Decomposition Approaches to Statistical Inverse Problems," Biometrika, vol. 85, pp. 115-129, 1998.	
+	BHAKARAN, V., et al., "Text and Image Sharpening of Scanned Images in the JPEG Domain," Proceedings of the 1997 International Conference on Image Processing (ICIP '97), pp. 326-329, 1997.	

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	✓	DONOHU, D.L., "Nonlinear solution of linear inverse problems by wavelet-vaguelett	
		decomposition," J. of Appl. and Comp. Harm. Anal, vol. 2, pp. 101-115, 1995.	
	+	MALLAT, S., A Wavelet Tour of Signal Processing. Academic Press, 1998.	
	+	NEELAMANI, R., Choi, H., Baraniuk, R., "Wavelet-based Deconvolution for Ill-conditioned	
		Systems," in Proceedings of ICASSP, vol. 6, pp. 3241-3244, 1998.	

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	POLESEL, A., et al., "Adaptive unsharp masking for contrast enhancement,"	
	in Proceedings of ICIP'97, pp. 267-270, 1997.	
	ZONG, X., Laine, A.F., Geiser, E.A., Wilson, D.C., "De-Noising and contrast enhancement via	
	wavelet shrinkage and nonlinear adaptive gain," Proceedings of the SPIE, vol. 2762,	
	pp. 566-574, Orlando, FL, 1996.	

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f	ANDREWS, H.C., Hunt, B.R., Digital Image Restoration. Prentice-Hall, Inc. Englewood Cliffs, New Jersey, 1977.		
f	BERKNER, K., Wells Jr, R.O., "Smoothness estimates for soft-threshold denoising via translation invariant wavelet transforms," Tech. Rep. CML TR98-01, Rice University, 1998.		
f	COIFMAN, R.R., Donoho, D.L., "Translation invariant denoising," in Wavelets and Statistics, Springer Lecture Notes (A. Antoniadis, ed.), Springer-Verlag, 1995.		

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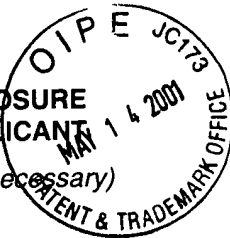


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	← DONOHO, D.L., "De-noising by soft-thresholding," IEEE Transactions on Information Theory,	
	vol. 41, no.3, pp. 613-627, 1995.	
	↖ JAIN, A.K., Fundamentals of digital image processing. Prentice Hall, Englewood Cliffs, NJ, 1989.	
	↗ KINGSBURY, N., "The dual-tree complex wavelet transform: a new efficient tool for image	
	restoration and enhancement," in Proc. European Signal Processing Conf., pp. 319-322, 1998.	

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	LANG, M., Guo, H., Odegard, J.E., Burrus, C.S., Wells Jr, R.O., "Noise reduction using an un-	
	decimated discrete wavelet transform," IEEE Signal Processing Letters, vol. 3, pp. 10-12, 1996.	
	PRATT, W., Digital Image Processing, John Wiley & Sons, NY, 1978.	
	ABRAMOVICH, F., Sapatinas, T., Silverman, B.W., "Wavelet Thresholding via a Bayesian	
	Approach," J. Royal Statist. Soc. Ser. B, vol 60, pp. 725-749, 1998.	

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	DEVORE, R.A., Jawerth, B., Lucier, B.J., "Image compression through wavelet transform coding,"	
	IEEE Trans. Information Theory, vol. 38, no. 2, pp. 719-746, 1992.	
	DONOHU, D.L., Johnstone, I.M., "Adaption to unknown smoothness via wavelet shrinkage,"	
	J. American Statist. Assoc., pp. 1200-1224, 1995.	

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	MUNOZ, A., Blu T., Unser, M., "Non-Euclidean Pyramids," in Proceedings of SPIE Conference,	
	San Diego, vol. 4119, pp. 710-720, 2000.	

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